

## ABSTRACT

In accordance with the present invention, an electroplating solution is provided for electroplating satin bright tin-copper alloy solder coatings at high speed. The preferred solution comprises sulfonic acid, tin sulfonate, copper sulfonate, non-ionic surfactant, satin brightener and an antioxidant catechol. The preferred surfactant is polyoxyethylene-block-polyoxypropylene. The preferred satin brightener is formed by the oxidation of an aqueous solution of 1-phenyl-3-parazolidinone. The preferred sulfonic acid is methanesulfonic acid.